

Reg. No.

MANIPAL UNIVERSITY
FIRST YEAR B.Sc. M.L.T./ B.Sc. N.M.T./ B.Sc. R.T./ B.Sc. M.I.T.
DEGREE EXAMINATION – JUNE 2007

SUBJECT: ANATOMY

Thursday, June 07, 2007

Time: 1½ Hrs.

Max. Marks: 40

✍ **Answer all the questions. Draw neat labeled diagram wherever necessary.**

1. Give a brief account of the different parts of small intestine. Add a note on pancreas.
(4+4 = 8 marks)

2. Discuss the uterus under
 - 2A. Normal axis
 - 2B. Parts and relations
 - 2C. Supports(2+4+2 = 8 marks)

3. Answer briefly on:
 - 3A. Vocal cord
 - 3B. Left coronary artery
 - 3C. Normal constrictions of ureter
 - 3D. Position and external features of kidney
 - 3E. External features of the right lung
 - 3F. Neuron
 - 3G. Microscopic structure of suprarenal gland
 - 3H. Ascending tracts of the spinal cord and their functions.(3×8 = 24 marks)



MANIPAL UNIVERSITY**FIRST YEAR B.P.T./B.O.T./B.Sc.M.L.T./B.Sc.N.M.T/B.Sc.R.T.T. DEGREE EXAMINATION – JUNE 2007****SUBJECT: PHYSIOLOGY**

Friday, June 08, 2007

Time available: 3 Hours.

Max. Marks: 80

- 1A. Describe the mechanism of contraction in skeletal muscle.
- 1B. Describe the functions of the following structures of brain:
- i. Hypothalamus ii. Cerebellum

(10+(5+5 = 20 marks)

2. Write short notes on each of the following:
- 2A. Lung volumes and capacities.
- 2B. Regulation of cardiac output in exercise.
- 2C. Digestive enzymes that act on carbohydrates in diet.
- 2D. Visual pathway.
- 2E. Nerve action potential.
- 2F. Functions of platelets.
- 2G. Lactation.
- 2H. Functions of renal tubules.

(5×8 = 40 marks)

3. Write brief answers to the following:
- 3A. Mention two conditions leading to bradycardia.
- 3B. Give the location of respiratory centers. Mention their functions.
- 3C. Mention two functions of smooth muscles.
- 3D. Name the receptors for
- i. Colour vision ii. Hearing
- 3E. Mention two components of gastric juice.
- 3F. Mention the location and function of vestibular apparatus.
- 3G. Mention two functions of plasma proteins.
- 3H. Name any two hormones of adrenal cortex.
- 3I. Mention the normal body temperature and method of measuring it.
- 3J. Mention two factors affecting spermatogenesis.

(2×10 = 20 marks)



MANIPAL UNIVERSITY
FIRST YEAR B. Sc. M.L.T. DEGREE EXAMINATION – JUNE 2007

SUBJECT: BIOCHEMISTRY

Saturday, June 09, 2007

Time: 1½ Hrs.

Max. Marks: 40

✍ **Answer all questions.**

1. Define glycolysis. Write the reactions of aerobic glycolysis mentioning the enzymes and coenzymes at each step.

(1+7 = 8 marks)
2. Define the term carbohydrates. Classify carbohydrates and give two examples for each class.

(5 marks)
3. Name lipoproteins and write one function each of the lipoproteins.

(4 marks)
4. Define BMR and list the factors affecting it.

(4 marks)
5. With the help of a graph explain the effect of substrate concentration and temperature on enzyme activity.

(6 marks)
6. Discuss urea cycle under the following headings:
 - 6A. Site and subcellular site.
 - 6B. Reactions.

(1+5 = 6 marks)
7. What are essential fatty acids? Give **TWO** examples.

(2 marks)
8. Describe any four important features of the genetic code. Name one initiation and termination codon each.

(4+1 = 5 marks)



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MANIPAL UNIVERSITY

FIRST YEAR B.Sc. M.L.T. DEGREE EXAMINATION – JUNE 2007

SUBJECT: BIOMEDICAL INSTRUMENTATION TECHNIQUES

Monday, June 11, 2007

Time: 3 Hrs.

Max. Marks: 80

- ✍ **Answer all questions.**
✍ **Draw diagrams if necessary.**

1. Discuss the chromatographic technique. What are the different types of chromatography commonly used in the separation of substances?
(10 marks)
2. Describe the working of ECG machines. Discuss the waveforms seen in electrocardiogram.
(10 marks)
3. Describe the different types of laboratory autoclaves. Discuss about the preparation of material and the sterilization procedure of laboratory autoclaves.
(10 marks)
4. Write detailed notes on:
 - 4A. MRI scan
 - 4B. Electrophoresis
 - 4C. EMG
 - 4D. Treadmill test
 - 4E. Electron microscope
 - 4F. ELISA
 - 4G. Incubators(5×7 = 35 marks)
5. Write short notes on:
 - 5A. Flame photometer
 - 5B. Blood gas analyzer
 - 5C. Dialysers
 - 5D. Ultrasound scan
 - 5E. Colourimeter(3×5 = 15 marks)

